



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,178	07/25/2000	Hiroki Nakamura	F98ED0762	7254
7590	05/11/2005			
EXAMINER				MAI, ANH D
ART UNIT		PAPER NUMBER		
		2814		
DATE MAILED: 05/11/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/625,178	NAKAMURA, HIROKI
	Examiner Anh D. Mai	Art Unit 2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 20 February 2004 and 26 October 2004.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 21-26,29 and 34-37 is/are pending in the application.  
4a) Of the above claim(s) 21-26 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 29 and 34-37 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/8/2003.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 26, 2004 has been entered.

### ***Status of the Claims***

2. Amendment February 20, 2004 has been entered. Claim 1-20, 27, 28 and 30-33 have been canceled. Claim 29 has been amended. Claims 34-37 have been added. Claims 21-26, 29 and 34-37 are pending. Non-elected invention, claims 21-26 have been withdrawn.

3. Amendment October 26, 2004 has been entered. Claims 29 and 37 have been amended. Claims 21-26, 29 and 34-37 are pending. Non-elected invention, claims 21-26 have been withdrawn.

### ***Terminal Disclaimer***

4. The terminal disclaimer filed on September 8, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Application Ser. No. 10/128,244, now Patent No. 6,781,216 has been reviewed and is accepted. The terminal disclaimer has been recorded.

*Claim Objections*

5. Claim 29 is objected to because of the following informalities:

Line 16 recites: whereby a pad pattern is.....

The correct term should be: whereby said pad pattern is... or whereby the pad pattern is...because: line 4 have already recited: ...where a pad pattern is formed,...

Lines 18-19 recites: a second insulating layer....., an edge of the first insulating layer being located on the pad pattern,...

The correct term should be: a second insulating layer....., an edge of the second insulating layer being located on the pad pattern,... because the first insulating layer does not formed over the pad pattern thus, does not have “an edge”.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 29 and 34-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 29, lines 4-5 recites: "..., wherein the second area encompasses the first and third area;" and lines 13-14 recites: "..., which is formed in the second area, which is a second part located between the first and the third area,..."

How can an element encompass two other elements and at the same time be between that two elements ?

As best understood by the examiner, this limitation should be amended to read:

--a second dummy pattern, which is formed of the same material as the wiring pattern, [which is formed in the second area], which is a second part located between the first and third areas,....--.

Claim 36, line 3, recites: ...solid content of the insulating layer.

There are two insulating layers, first and second insulating layers, in claim 29,

Which insulating layer that the solid content is referring to ?

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 29 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa et al. (U.S. Patent No. 6,150,725) in view of Madokoro et al. (JP. Patent No. 57-153441).

With respect to claim 29, As best understood by the examiner, Misawa teaches a semiconductor device substantially as claimed including:

a semiconductor substrate (102) having a first area where an integrated circuit (106) is formed, a second area (right most portion) and a third area where a pad (113) is formed, wherein the second area located outside the first and third area;

wiring patterns (112) formed on the substrate (102) in the first area;  
a first dummy pattern (2) which is formed of the same material as the wiring pattern (112), formed in the second area, which is a first part along an edge of the semiconductor substrate;

a second dummy pattern (2), which is formed of the same material as the wiring pattern (112), which is a second part located between the first (112) and third areas (113), and which is connected to the first dummy pattern (2), whereby the pad pattern (113) is encompassed by the first (2) and second (2) dummy patterns;

a second insulating layer (118) formed over the wiring patterns (112) and the first (2) and second (2) dummy patterns, an edge of the second insulating layer (118) being located on the pad pattern (113), which is adjacent the first (2) and second (2) dummy patterns; and

a first insulating layer (121) formed above the semiconductor substrate (102), the first insulating layer (121) being formed outside the first (2) and second (2) dummy patterns but not being formed over the first (2) and second (2) dummy patterns. (See Fig. 6a).

Thus, Misawa is shown to teach all the features of the claim with the exception of explicitly show that the second area encompasses the first and third area.

However, Madokoro teaches that the second area located on the peripheral surrounding the semiconductor chip. (See Fig. 3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to form the second area surround the integrated circuit (first area) and the pad patterns (113) of Misawa as taught by Madokoro seal both end of the chip so that moisture and contaminant penetration into the circuit area can be avoided.

With respect to claim 34, the first insulating layer (121) of Misawa has a moisture absorbable characteristic.

With respect to claim 35, the first insulating layer (121) of Misawa is a SOG layer.

With respect to claim 36, as best understood by the examiner, the first dummy pattern (2) of Misawa has a width, thus is fixed by a concentration of solid content of the insulating layer.

With respect to claim 37, the semiconductor device of Misawa further includes a third insulating layer (120) formed on the substrate (102), the first insulating layer being located between the second insulating layer (118) and the third insulating layer (120).

#### *Response to Arguments*

8. Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh D. Mai whose telephone number is (571) 272-1710. The examiner can normally be reached on 9:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**ANH D. MAI**  
**PRIMARY EXAMINER**

May 3, 2005